

CLAIMS

1. A peptide capable of inhibiting *in vitro* the enzymatic activity of human  
5 Leukocyte Elastase (hLE) and/or of human Cathepsin G (hCG), said peptide being  
selected from:

(i) a core peptide corresponding to positions 89-96 of the sequence of human C-  
reactive protein (CRP) of the formula:

Val89-Thr-Val-Ala-Pro-Val-His-Ile96 <sup>(of SEQ ID NO: 3)</sup>

10 or a modification thereof characterized by:

(ii) substitution of Ile96 by a hydrophobic amino acid residue ;

(iii) substitution of His95 by D-His or by a residue selected from Asp, Glu, Ser,  
Thr, Phe and Tyr, N-alkyl derivatives thereof and D-forms of the foregoing;

(iv) substitution of Val94 by D-Val, or by a residue selected from Ala, His and  
Phe, and D-forms of the foregoing;

(v) substitution of Ala92 by a hydrophobic amino acid residue;

(vi) substitution of Val91 by Ala or Gly;

(vii) substitution of Thr90 by a residue selected from Asn, Asp, Gln, Glu, Ala, Val  
and Pro;

(viii) substitution of Val89 by a hydrophobic amino acid residue;

(ix) a peptide obtained by elongation of a peptide (i) to (viii) at the N- and/or C-  
terminal;

(x) an amide of the C-terminal of a peptide (i) to (ix); and

(ix) an N-acyl derivative of a peptide (i) to (x).

2. A peptide according to claim 1 wherein the hydrophobic amino acid residue is  
selected from a residue comprising Leu, Ile, Val, Phe, Tyr, Nle and Nva.

3. A peptide according to claim 1(ix) wherein the peptide is elongated by  
30 additional amino acid residues at the N-terminal.

4. A peptide according to claim 3 wherein the additional amino acid residues constitute sequences of the human CRP.

5. An N-acyl peptide according to claim 1(xi) wherein acyl is a radical R-X-CO-, wherein R is substituted or unsubstituted hydrocarbyl and X is a covalent bond, O, NH, or NHCO.

6. An N-acyl peptide according to claim 5 wherein R is optionally substituted alkanoyl or aroyl.

7. An N-acyl peptide according to claim 6 wherein the acyl radical is selected from octanoyl, monomethoxysuccinyl, carbobenzoxy (benzyl-O-CO-), acetylaminocaproyl, Fmoc (fluorenylmethoxycarbonyl), naphthyl-NH-CO- and adamantyl-NH-CO-.

8. A peptide according to any one of claims 1 to 7 selected from the sequences:

Val-Thr-Val-Ala-Pro-Val-His-Ile

Val-Thr-Val-Ala-Pro-Val-(D)His-Ile

Val-Thr-Val-Ala-Pro-(D)Val-His-Ile

Val-Thr-Val-Ala-Pro-(D)Val-(D)His-Ile

Val-Thr-Val-Ala-Pro-Val-Ser-Ile

Val-Thr-Val-Ala-Pro-Val-Phe-Ile

Val-Thr-Val-Ala-Pro-Val-His-Ile-NH<sub>2</sub>

Val-Thr-Val-Ala-Pro-Val-His-Ile-Pro-NH<sub>2</sub>

Val-Thr-Val-Ala-Pro-Phe-His-Ile-Pro-NH<sub>2</sub>

Val-Thr-Val-Ala-Pro-Val-His-Ile-Pro-Pro-NH<sub>2</sub>

MeOSuc-Val-Thr-Val-Ala-Pro-Val-His-Ile

MeOSuc-Phe-Val-Thr-Val-Ala-Pro-Val-His-Ile

Octanoyl-Val-Thr-Val-Ala-Pro-Val-His-Ile

Acetylaminocaproyl-Val-Thr-Val-Ala-Pro-Val-His-Ile

Adamantyl-NH-CO-Val-Thr-Val-Ala-Pro-Val-His-Ile

$\alpha$ -Naphthyl-NH-CO-Val-Thr-Val-Ala-Pro-Val-His-Ile

CBz-Val-Thr-Val-Ala-Pro-Val-His-Ile

CBz-Phe-Val-Thr-Val-Ala-Pro-Val-His-Ile

Fmoc-Val-Thr-Val-Ala-Pro-Val-His-Ile

5 wherein Cbz is carbobenzoxy, MeOSuc is monomethoxysuccinyl and Fmoc is 9-fluorenylmethoxycarbonyl.

9. A pharmaceutical composition comprising a CRP-derived peptide according to any one of claims 1 to 8 and a pharmaceutically acceptable carrier.

10 10. Use of a CRP-derived peptide according to any one of claims 1 to 8 for the preparation of a pharmaceutical composition for the treatment of chronic inflammatory conditions.

11. Use according to claim 10 wherein the chronic inflammatory condition is  
15 rheumatoid arthritis, pulmonary emphysema or cystic fibrosis.

12. A method for the treatment of a chronic inflammatory condition which comprises administering to a patient in need thereof an effective amount of a peptide according to any one of claims 1 to 8.

13. A method according to claim 12 wherein the chronic inflammatory condition is rheumatoid arthritis, pulmonary emphysema or cystic fibrosis.